Zapco ST-4XP-SQ-III

Zapco ST-4XP-SQ-III 4-Channel Class AB Amplifier User Manual

Model: ST-4XP-SQ-III

1. INTRODUCTION

Thank you for choosing the Zapco ST-4XP-SQ-III 4-Channel Class AB 800W RMS Sound Quality Amplifier. This manual provides essential information for the proper installation, operation, and maintenance of your amplifier. Please read this manual thoroughly before attempting to install or operate the unit to ensure optimal performance and safety.

This image displays the Zapco ST-4XP-SQ-III amplifier, showcasing its sleek design and heat sink fins. The main body is silver with a black central panel featuring the Zapco logo.

2. SAFETY INFORMATION

Always observe the following safety precautions during installation and operation:

- Disconnect the vehicle's negative battery terminal before any wiring.
- Ensure all wiring is properly routed and secured to prevent damage or short circuits.

- Use appropriate gauge wiring for power, ground, and speaker connections as specified.
- Mount the amplifier securely in a location that allows for adequate ventilation and is protected from moisture and excessive heat.
- Do not operate the amplifier if it is damaged or malfunctioning. Refer to the troubleshooting section or contact support.

3. PRODUCT OVERVIEW

The Zapco ST-4XP-SQ-III is a high-performance 4-channel Class AB amplifier designed for superior sound quality in automotive applications. Key features include:

- 4-Channel, Full Range, Class A/B operation
- Tiffany style Panel Mount RCA connectors
- Speaker Level Inputs with Auto-on functionality
- Variable input gain control
- Variable electronic crossover (HPF/LPF)
- Variable bass boost control
- Robust new aluminum chassis for efficient heat dissipation

Control Panel Layout

This image shows the input and control panel of the Zapco ST-4XP-SQ-III amplifier. Visible controls include gain adjustments, high-pass filter (HPF), low-pass filter (LPF), bass boost, and RCA input jacks for front and rear channels. Speaker level inputs and an auto-on switch are also present.

The control panel provides access to input connections and sound tuning adjustments. This includes RCA inputs, speaker level inputs, gain controls, and crossover frequency adjustments for both front and rear channels.

Power and Speaker Output Terminals

This image details the power and speaker output terminals of the Zapco ST-4XP-SQ-III amplifier. It includes connections for Ground (GND), Remote (REM), +12V Battery (Bat), and speaker outputs for front and rear channels, with bridging options indicated.

The power and speaker output panel features robust terminals for secure connections. These include connections for the main power supply (+12V Bat), ground (GND), remote turn-on (REM), and speaker outputs for the front and rear channels, with clear markings for bridging configurations.

4. SETUP AND INSTALLATION

Proper installation is crucial for the performance and longevity of your amplifier. If you are unsure about any steps, consult a professional installer.

4.1 Mounting

- Choose a mounting location that is dry, well-ventilated, and away from direct sunlight or heat sources.
- Ensure sufficient space around the amplifier for air circulation.
- Secure the amplifier firmly using appropriate hardware to prevent movement during vehicle operation.

4.2 Wiring Connections

Refer to the 'Power and Speaker Output Terminals' image for visual guidance.

1. **Power (BAT +12V):** Connect a fused power cable directly from the vehicle's positive battery terminal to the +12V terminal on the amplifier. The fuse should be located within 18 inches of the battery.
2. **Ground (GND):** Connect a ground cable of the same gauge as the power cable to a clean, unpainted metal surface on the vehicle chassis. Ensure a solid electrical connection.
3. **Remote (REM):** Connect a remote turn-on wire from your head unit's remote output to the REM terminal on the amplifier. This turns the amplifier on and off with your head unit. If using speaker level inputs, the amplifier features an auto-on function.
4. **Input Signal:**
   - **RCA Inputs:** Connect RCA cables from your head unit's pre-amp outputs to the corresponding RCA input jacks (Front IN, Rear IN) on the amplifier.
   - **Speaker Level Inputs:** If your head unit does not have RCA outputs, connect the speaker wires from the head unit to the amplifier's speaker level input terminals. Ensure correct polarity. The amplifier's auto-on feature will activate when a signal is detected.
5. **Speaker Outputs:** Connect your speakers to the amplifier's speaker output terminals (Front L/R, Rear L/R). Observe correct polarity (+ to + and - to -). For bridged operation, refer to the markings on the amplifier for the

correct terminals.

5. OPERATING INSTRUCTIONS

Once installed, adjust the amplifier settings for optimal sound performance.

5.1 Gain Control

The variable input gain control (MIN MAX GAIN) matches the amplifier's input sensitivity to the output level of your head unit. Start with the gain set to minimum. Play a familiar track at about 75% of your head unit's maximum volume. Slowly increase the amplifier's gain until you hear slight distortion, then back off slightly. This ensures maximum clean output.

5.2 Crossover Settings

The ST-4XP-SQ-III features variable electronic crossovers for both High-Pass Filter (HPF) and Low-Pass Filter (LPF).

- **HPF (High-Pass Filter):** Allows frequencies **above** the set point to pass through. Use this for full-range speakers to prevent them from playing low bass, which can cause distortion and damage.
- **LPF (Low-Pass Filter):** Allows frequencies **below** the set point to pass through. Use this for subwoofers to ensure they only reproduce bass frequencies.
- **FULL:** Bypasses the crossover, allowing all frequencies to pass.

Adjust the HPF and LPF settings according to your speaker types and desired sound. Typical settings for full-range speakers might be an HPF between 80Hz-120Hz. For subwoofers, an LPF between 80Hz-100Hz is common.

5.3 Bass Boost

The variable bass boost control allows you to enhance low-frequency output. Use this feature sparingly, as excessive bass boost can lead to distortion and potential speaker damage. Adjust to taste, ensuring the sound remains clear.

5.4 Auto-on with Speaker Level Inputs

When using speaker level inputs, the amplifier can automatically detect an audio signal and power on. Ensure the 'AUTO TURN ON' switch is set to 'ON' if you wish to utilize this feature. If using a remote turn-on wire, set this switch to 'OFF'.

6. MAINTENANCE

The Zapco ST-4XP-SQ-III amplifier requires minimal maintenance to ensure long-term performance.

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth to remove dust and dirt. Do not use harsh chemicals or abrasive cleaners.
- **Inspection:** Regularly check all wiring connections for tightness and signs of corrosion or damage. Ensure the amplifier's mounting remains secure.
- **Ventilation:** Ensure that the amplifier's heat sink fins are not obstructed, allowing for proper airflow and cooling.

7. TROUBLESHOOTING

If you experience issues with your amplifier, consult the following table before contacting support.

Problem	Possible Cause	Solution
No Power / Amplifier does not turn on	- Blown fuse - Poor power or ground connection - Remote wire not connected or faulty - Auto-on switch incorrect (if using speaker level inputs)	- Check and replace fuse if necessary - Verify all power and ground connections are secure - Check remote wire connection and voltage - Ensure auto-on switch is set correctly for your input type
No Sound Output	- Input signal issue (RCA/speaker level) - Speaker wires disconnected or shorted - Gain set too low - Crossover settings incorrect	- Check RCA/speaker level input connections - Verify speaker wire connections and check for shorts - Increase gain gradually - Adjust crossover settings appropriately
Distorted Sound	- Gain set too high - Improper crossover settings - Speaker impedance mismatch - Poor ground connection	- Reduce gain setting - Adjust crossover settings - Verify speaker impedance is within amplifier's specifications - Check ground connection for security
Amplifier Overheating	- Insufficient ventilation - Speaker impedance too low - Sustained high output levels	- Ensure adequate airflow around the amplifier - Verify speaker impedance is correct - Reduce volume or gain levels

8. SPECIFICATIONS

The following are the technical specifications for the Zapco ST-4XP-SQ-III amplifier:

- **Power @ 4Ω:** 4 x 150 watts RMS
- **Power @ 2Ω:** 4 x 250 watts RMS
- **Power Bridged @ 4Ω:** 2 x 500W RMS
- **THD @ Rated Power:** < 0.1% THD
- **Signal to Noise Ratio:** > 95dB
- **Channel Separation:** >60dB
- **Frequency Response:** 15Hz to 30KHz ±1dB
- **Input Sensitivity:** 0.25v to 5v
- **Net Dimensions (W x H x L):** 160mm x 58mm x 450mm (6.3 x 2.28 x 17.72 inches)
- **Overall Dimensions (W x H x L):** 160mm x 58mm x 475mm (6.3 x 2.28 x 18.7 inches)
- **Item Weight:** Approximately 10 pounds

9. WARRANTY AND SUPPORT

9.1 Warranty Information

The Zapco ST-4XP-SQ-III amplifier comes with a **1-Year Warranty** from the date of purchase. This warranty covers defects in materials and workmanship under normal use. It does not cover damage caused by improper installation, accident, misuse, abuse, neglect, unauthorized modification, or normal wear and tear. Please retain your proof of purchase for warranty claims.

9.2 Customer Support

For technical assistance, warranty service, or general inquiries, please visit the official Zapco website or contact your authorized Zapco dealer. You can often find detailed FAQs, additional resources, and contact information on the manufacturer's website.
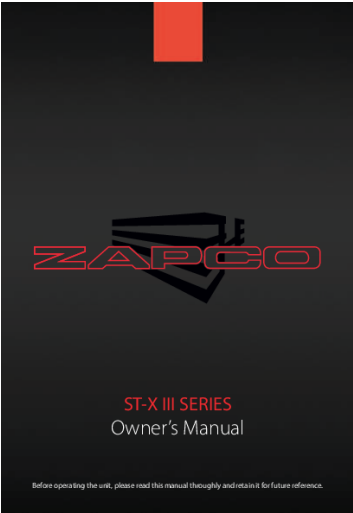
Zapco Official Website: Visit the Zapco Store on Amazon

Related Documents

	Zapco ST-A1 Owner's Manual: High-Fidelity Car Amplifier Explore the Zapco ST-A1, a compact and powerful Class-AB car amplifier designed for Android units. This manual covers features, installation, mounting, and specifications for optimal audio performance.
	Zapco ST-X DSP III Series Owner's Manual: Installation, Features, and Specifications Comprehensive owner's manual for Zapco ST-X DSP III Series car audio amplifiers (ST-68X, ST-4X, ST-6X). Details installation, power connections, wire sizing, mounting, DSP features, and technical specifications.
	Zapco ST-X DSP III Series Owner's Manual This owner's manual provides detailed information on installing, setting up, and tuning Zapco ST-X DSP III Series car audio amplifiers, including models ST-68X, ST-4X, and ST-6X. It covers power connections, wire sizing, GUI software operation, phase and level adjustments, equalization, and technical specifications.

| | Zapco Studio Series and Studio-XM Series Amplifiers User Manual
Comprehensive user manual for Zapco Studio Series and Studio-XM Series car audio amplifiers, detailing installation, operation, features, and specifications for models like ST-2X, ST-4X II, ST-5X, and various XM series amplifiers. |
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Documents - Zapco – ST-4XP-SQ-III
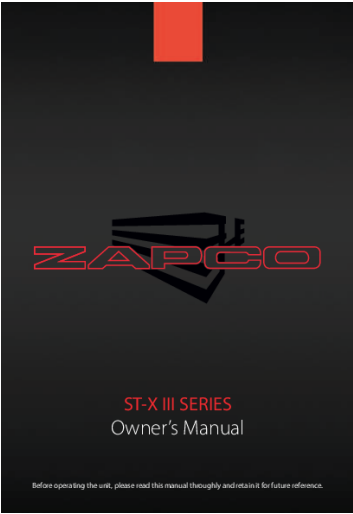
[pdf] User Manual Owner's Manual Instructions Specifications

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ST-X III SERIES Owner s Manual 1 Before operating the unit, please read this manual throughly and retain it for future reference. Table of Contents General instructions 4 IT Istruzioni Generali DE Allgemeine Anweisungen FR Instructions Gnrales ES Instrucciones Generales CH Class, Power, H...

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[pdf] User Manual Owner's Manual Instructions Specifications

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